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PERSPECTIVE TAKING AS A PREDICTOR OF BURNOUT AMONG COMPETITIVE ADOLESCENT SQUASH PLAYERS

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ABSTRACT

Athlete burnout (ABO) has been identified as a significant concern among youth sportspeople. Conceptualisations of self, or perspective taking, predict mental health among non-athlete adolescents. Consequently, this study aimed to determine how much perspective-taking contributes to ABO among adolescent athletes. A non-experimental correlational design was employed to explore the utility of a three selves model of perspective-taking to predict ABO. One-hundred and sixty-five competitive adolescent squash players were recruited via convenience sampling. Participants completed measures of ABO, Self-as-Content, Self-as-Process and Self-as-Context. Regression analyses were employed to determine the utility of the three-selves model in predicting ABO in the sample. All components of ABO were positively associated with Self-as-Content, and negatively correlated with Self-as-Process and Self-as-Context. Furthermore, Self-as-Content independently predicted a reduced sense of athletic accomplishment and greater sport devaluation. Reduced physical and emotional exhaustion was only predicted by Self-as-Process. Contrary to existing theoretical and empirical literature, Self-as-Context only emerged as a significant predictor of a reduced sense of athletic accomplishment. The current study suggests that perspective-taking plays a noteworthy, yet complex, role in the experience of ABO among competitive adolescent athletes.

Keywords: Adolescence; Athlete burnout; Perspective taking; Sense of self; Youth sport

INTRODUCTION

The prevalence of athlete burnout (ABO) has shown an upward trend with approximately one in 10 competitive athletes suffering from moderate to severe burnout symptoms at some point in their careers (Gustafsson *et al*., 2007; Madigan, 2021; Russell, 2021). In addition, the incidence of ABO among competitive adolescent and youth athletes appears to be on the rise (Gustafsson, DeFreese *et al*., 2017). This trend is particularly concerning when the associated risks to athletes' physical and psychological well-being are considered (Appleton *et al*., 2009; Lonsdale & Hodge, 2011; DeFreese & Smith, 2014). ABO is considered to be a debilitating cognitive-affective syndrome consisting of physical and emotional exhaustion, reduced sense

of athletic accomplishment, and sport devaluation (Raedeke & Smith, 2001; Giusti *et al.*, 2020; Madigan *et al.*, 2020). ABO has been associated with anxiety (Gustafsson, Sagar *et al*., 2017), depression (Gustafsson & Skoog, 2012), reduced competitive performance, mood dysregulation and social withdrawal (Eklund & DeFreese, 2015; Isoard-Gautheur *et al.*, 2016). ABO has also been linked to a reduction and/or termination of sport participation (Gustafsson & Skoog, 2012; Gustafsson, DeFreese *et al*., 2017), thereby limiting the opportunities that sport participation provides for adolescents' physical, psychological and social development (Harris & Watson, 2011; DiFiori *et al*., 2014; DeFreese *et al*., 2018).

Establishing a personal identity is one of the major developmental tasks of adolescence (Coleman, 2011; Marshall *et al*., 2015), and can be strongly influenced by participation in competitive sport (Brewer & Petitpas, 2017). Athletic identity is commonly defined as "the degree to which an individual identifies with the athlete role" (Brewer *et al*., 1993:237). Phrased differently, it is the extent to which an individual thinks, feels and acts like an athlete (Gustafsson *et al*., 2018). Athletic identity is shaped by both positive and negative sport experiences (Brewer *et al*., 1993; Chang *et al.*, 2018). Strong affiliation with an athletic identity has been associated with overtraining, disturbances of body image and maladaptive eating behaviour, as well as increased risk of burnout and increased incidence of reinjury during rehabilitation (Gustafsson *et al.*, 2011; Hiliard *et al.*, 2017; Turton *et al.*, 2017). Martin and Horn (2013) posited that adolescents who identify strongly with the athlete role are more likely to experience ABO, especially when performance expectations are not met. Concerns have also been expressed regarding identity foreclosure among adolescents competing in high-level sport. Identity foreclosure restricts the healthy exploratory behaviour necessary for the development of an integrated sense of self (Brewer & Petitpas, 2017). Consequently, the relationship between athlete identity and ABO among adolescents merits further research.

Acceptance and Commitment Therapy (ACT; Hayes *et al*., 2012) is a branch of applied behaviour analysis that has begun to show promise in the realm of sport and performance (Noetel *et al*., 2019). ACT aims to foster psychological flexibility as a means of helping individuals live richer and more vital lives (Hayes *et al*., 2012). A core component of psychological flexibility is developing a functional identity or sense of self . McHugh and colleagues (2012) view the self as an acquired behavioural repertoire that proceeds from the learned ability to take perspective. Perspective-taking is dependent upon three core relational or deictic frames that are shaped by ongoing social interactions (Hayes *et al*., 2001). These are "I versus YOU" (interpersonal), "HERE versus THERE" (spatial), and "NOW versus THEN" (temporal) (Barnes-Holmes *et al.*, 2013; McHugh, 2015; McHugh *et al*., 2019). The inherent reciprocity in interpersonal communication gives rise to awareness that an individual's perspective is both consistent and distinct from that of those around them (Moran *et al*., 2018). Three perspectives of self are commonly distinguished within the above-mentioned theoretical approach, namely Self-as-Content, Self-as-Process and Self-as-Context (Hayes *et al*., 2001; McHugh *et al*., 2019).

Self-as-Content refers to the most literal sense of self that develops as individuals learn to describe themselves according to their personal characteristics, such as athletic, kind, etc. (Hayes *et al*., 2001; Atkins & Styles, 2016; Moran *et al*., 2018). This form of perspective-taking is also often called the conceptualised self, or self-as-story (Hayes *et al*., 2001; McHugh *et al*., 2019). Although a necessary and useful part of human inter-relations, an overly conceptualised

self may lead to inflexibility to changing contexts and become a barrier to optimal psychological functioning (Foody *et al*., 2012; McHugh *et al*., 2019).

Self-as-Process is a sense of self based upon the "ongoing awareness of one's moment-to-moment experiences of the self" (Moran *et al*., 2018:56). This form of perspective-taking is often referred to as the knowing or experiential self and involves the use of flexible self-knowledge in the present moment (Atkins & Styles, 2016; Moran *et al*., 2018). This concept demonstrates significant overlap with mindfulness, a state of non-judgemental present-moment awareness (Kabat-Zinn, 2003). Mindfulness has been associated with increased mental toughness and reduced ABO in South African youth sport populations (Walker, 2013; 2019). Self-as-Process allows individuals to communicate their current states (physical, emotional and cognitive), and by doing so solicit the necessary social support to meet their changing needs (Hayes *et al*., 2001; Atkins & Styles, 2016). Although the knowing self is inherently useful and generally constructive, it can unintentionally restrict an individual's behavioural flexibility as it has the potential to further reinforce aspects of the conceptualised self as ongoing experiences confirm existing narratives about the self (Hayes *et al*., 2001).

Self-as-Context is often referred to as the transcendent or observing self that involves taking an observational perspective on one's inner experiences and by doing so, allowing acceptance of those experiences (Hayes, 1995; McHugh, 2015). The individual is then able to view thoughts and emotions as internal events and not as representations of an objective reality (Hayes *et al*., 2001; McHugh, 2015; Atkins & Styles, 2016). The observing self provides an individual with a sense of constancy and stability around which direct experiences can come and go without disrupting the sense of self (Hayes et *al*., 2001). The observing self forms the basis of some of the most socially impactful human abilities, such as empathy, intimacy, compassion and altruism (Hayes *et al*., 2001; McHugh, 2015; Moran *et al*., 2018). Deficits in Self-as-Context result in a wide variety of psychological problems, ranging from an unstable sense of identity to the inability to meaningfully connect with others (McHugh, 2015). Self-as-Context is, in essence, the pivotal point around which the other conceptualisations of self derive their relevance (Hayes *et al*., 2001; Foody *et al*., 2012).

Studies investigating the three ACT-based conceptualisations of the self in clinical populations have found that an overly conceptualised self (Self-as-Content) is related to higher stress and more negative affect (Atkins & Styles, 2016). In contrast, a more strongly observing self (Self-as-Context) has been found to be predictive of lower rates of long-term depression, as well as better work and social adjustment (Atkins & Styles, 2016; Yu *et al.*, 2017). Moran and colleagues (2018) explored a model of the three selves (Self-as-Content, Self-as-Process and Self-as-Context) with respect to mental health in a non-clinical adolescent sample. Self-as-Content was found to be positively associated with mental health difficulties, while Self -as-Process and Self-as-Context were negatively correlated with anxiety, depression and stress. Given the importance of identity development during adolescence (Coleman, 2011; Marshall *et al*., 2015), an ACT-based conceptualisation of the self may hold promise for expanding understanding of the interaction between athletic identity and conditions such as ABO among adolescent athletes.

PURPOSE OF STUDY

The current study aimed to explore the extent to which three functionally distinct conceptualisations of the self (forms of perspective taking), namely Self-as-Content, Self-as-Process and Self-as-Context, relate to ABO in a sample of competitive adolescent athletes. Additionally, the study aimed to determine the efficacy of the three-selves model (Moran *et al*., 2018) in predicting ABO in this population.

METHODOLOGY

Participants

The sample comprised of 165 (108 males, 50 females and 7 not indicated) competitive adolescent squash players from two provinces in South Africa. The participants ranged in age from 13 to 18 years (mean [*M*]=15.36, standard deviation [*SD*]=1.233) and were purposively recruited based on whether they were either engaged in regular squash training for the purposes of competing, or in active squash competition. On average the participants ha d been playing squash for 3.84 years (*SD*=2.78) and reported practising for an average of 4.94 hours (*SD*=2.98) per week. The majority (55.2%) reported playing for a school team as their highest level of participation. Provincial representation was the next highest level of participation (35%), while 9.8% of the participants were ranked in the top 10 players in their age group nationally.

Research design and measures

The study employed a non-experimental correlational design. Quantitative data were collected via the self-report measures discussed below.

In the absence of a specific measure of Self-as-Content, the *Self Compassion Scale – Short Form* (SCS-SF) (Raes *et al*., 2011) is commonly employed to operationalise this construct (Atkins & Styles, 2016; Moran *et al*., 2018). Participants were required to respond to the 12-item SCS-SF on a five-point Likert-type scale anchored by "almost never" and "almost always". Moran and colleagues (2018) note that the combination of the self -judgement, isolation and overidentification subscales of the SCS-SF have demonstrated a positive relationship with constructs associated with an overly conceptualised self. Consequently, Self-as-Content was measured by summing scores across the six self-judgement, isolation and overidentification items (Self-subscale = SCS-S) on the SCS-SF. Higher scores are considered to be indicative of stronger Self-as-Content. The SCS-SF has demonstrated adequate internal consistency ($\alpha \geq 0.86$) in a sample of Belgian university students (Raes *et al*., 2011).

The *Child and Adolescent Mindfulness Measure* (CAMM) (Greco *et al*., 2011) is a 10-item measure of mindfulness in children and adolescents. The CAMM was employed as a measure of Self-as-Process. Self-as-Process has been equated to present-moment awareness, a component of mindfulness (e.g., Atkins & Styles, 2016; Moran *et al*., 2018). Consequently, in the absence of a specific measure of Self-as-Process, measures of mindfulness are used to operationalise this construct in survey-based research (Atkins & Styles, 2016; Moran *et al*., 2018). Items a re presented along a five-point Likert-type scale with response options ranging from "never true" to "always true". The CAMM yields a unitary score that is obtained by summing responses across all 10 items. Generally, lower scores indicate higher levels of mindfulness (Greco *et al*., 2011). In the interests of clarity, items were reverse scored so that

higher CAMM scores served as a proxy indication of greater Self-as-Process. An internal consistency coefficient of 0.74 has been reported for the CAMM in a sample of South African adolescent female provincial hockey players (Walker, 2019).

The *Self Experiences Questionnaire* (SEQ) (Yu *et al*., 2017) is a 15-item measure of Self-as-Context. Response options to items on the SEQ are presented along a seven-point Likert-type scale anchored by "always true" and "never true". Responses across all 15 items are summed to yield a SEQ total score. Higher scores are considered to be indicative of higher levels of Self-as-Context. An internal consistency coefficient of 0.90 has been reported for the SEQ among adult chronic pain patients (Yu *et al*., 2017).

The *Athlete Burnout Questionnaire* (ABQ) (Raedeke & Smith, 2001) is comprised of three five-item subscales based on the conceptualisation of ABO as emotional and physical exhaustion (exhaustion), reduced sense of athletic accomplishment, and sport devaluation. Response options are presented along a five-point Likert-type scale anchored by "almost never" and "almost always". Responses are summed across the five items comprising each of the three subscales. In addition, a total ABQ score may be obtained by summing responses across all 15 items. Higher scores on the ABQ subscales are indicative of higher levels of the specific components of ABO. Granz *et al*. (2019) recommend a multidimensional approach to measuring ABO. Consequently, the three ABQ subscales were used in preference to an ABQ total score. Gerber *et al*. (2018) have reported internal consistency coefficients ranging from 0.78 for the reduced sense of athletic accomplishment and sport devaluation subscales of the ABQ to 0.80 for the emotional and physical exhaustion subscale in a sample of elite Swiss adolescent athletes.

Ethical considerations

Ethical approval for the study was granted by the General/Human Research Ethics Committee at University of the Free State (UFS-HSD2019/0632/1007). In addition, written permission to collect data at SA Schools Squash tournaments was obtained from the relevant national and regional bodies. All participants provided written informed consent/assent prior to data collection. Written informed consent was also obtained from the legal guardians of all participants younger than 18 years of age.

Procedures

Measures were administered to groups of no more than 10 participants at tournaments on the SA Schools Squash calendar. Data collection was conducted in such a manner as to minimally disrupt training and competition. In addition, to raise awareness of ABO, once they had completed the questionnaires, participants were provided with an information pamphlet listing the symptoms of ABO, as well as suggestions for preventing or dealing with ABO.

Statistical analyses

Initially, descriptive statistics and intercorrelations were calculated with respect to the study variables. Multiple regression analysis was employed to determine the extent to which Self-as-Content, Self-as-Process and Self-as-Context predict the three components of ABO (exhaustion, reduced sense of athletic accomplishment and sport devaluation). There appears to be consensus in the literature that psychological well-being and functioning improve as

individuals move from rigid self-conceptualisations, such as Self-as-Content, towards Self-as-Process and ultimately in the direction of Self-as-Context (Hayes *et al*., 2001; Foody *et al*., 2012). Following this reasoning, more rigid self-conceptualisation could be hypothesised to positively predict ABO, whereas lower levels of ABO might be associated with more flexible conceptualisations of self. Consequently, Self-as-Content was entered into the regression analysis first, followed by Self-as-Process and finally Self-as-Context. A confidence interval of 95% was applied to determine statistical significance for all ana lyses. Analyses were conducted using the Statistical Package for the Social Sciences – Version 27 (SPSS-27; IBM Corp, 2020).

Tabachnick and Fidell (2007) recommend that the minimum sample suitable for regression analysis is the number of predictors multiplied by eight, plus 50. The current study included three predictors. Consequently, the sample size (n=165) meets the recommended criteria (i.e., [3×8]+50=74).

RESULTS

Descriptive statistics and correlational analysis

The means, standard deviations, ranges, reliability coefficients and intercorrelations for the measures are reported in Table 1. All measures satisfied the minimum internal consistency requirement for use in psychological research (α>0.60) and were thus included in the subsequent analyses (Ponterotto & Ruckdeschel, 2007).

Table 1 indicates that Self-as-Content was positively associated with exhaustion (r=0.230, $p\leq$0.01), sport devaluation (r=0.301, $p\leq$0.01) and reduced sense of athletic accomplishment (r=0.356, $p\leq$0.01). Conversely, Self-as-Process demonstrated negative correlations with exhaustion (r=-0.317, $p\leq$0.01), sport devaluation (r=-0.266, $p\leq$0.01) and reduced sense of athletic accomplishment (r=-0.220, $p\leq$0.01). Self-as-Context demonstrated statistically significant negative interactions with sport devaluation (r=-0.239, $p\leq$0.01) and reduced sense of athletic accomplishment (r=-0.302, $p\leq$0.01), but not with exhaustion (r=-0.035, p=0.66). Generally speaking, higher levels of ABO were associated with a higher Self-as-Content, while lower levels of ABO were associated with greater Self-as-Process and Self-as-Context. Additionally, a more conceptualised sense of self was related to lower scores on measures of Self-as-Process (r=-0.442, $p\leq$0.01) and Self-as-Context (r=-0.338, $p\leq$0.01). Self-as-Process and Self-as-Context demonstrated a positive correlation (r=0.278, $p\leq$0.01). All three components of ABO demonstrated significant positive correlations with one another.

Table 1. **DESCRIPTIVE STATISTICS, RELIABILITIES AND CORRELATION COEFFICIENTS FOR ATHLETE BURNOUT, SELF-AS-CONTENT, SELF-AS-PROCESS AND SELF-AS-CONTEXT (n=165)**

Variable	M (SD)	Min–max	α	1	2	3	4	5	6
1 ABO-E	9.72 (4.02)	5–25	0.872	–	0.505**	0.172*	0.317**	-0.035	0.230**
2 ABO-SD	8.57 (3.44)	5–20	0.739		–	0.481**	0.266**	0.239**	0.301**
3 ABO-RSAA	11.96 (3.23)	5–20	0.679			–	0.220**	0.302**	0.356**
4 Self-as-Process	21.45 (6.31)	2–38	0.750				–	0.278**	0.442**
5 Self-as-Context	58.11 (12.36)	24–84	0.857					–	0.338**
6 Self-as-Content	16.71 (4.56)	6–29	0.730						–

** $p \leq 0.01$; * $p \leq 0.05$

M=mean SD=standard deviation ABO-E=Athlete Burnout – Exhaustion (Athlete Burnout Questionnaire – Physical and Emotional Exhaustion Subscale) ABQ-SD=Athlete Burnout – Sport Devaluation (Athlete Burnout Questionnaire – Sport Devaluation Subscale) ABQ-RSAA=Athlete Burnout – Reduced Sense of Athletic Accomplishment (Athlete Burnout Questionnaire – Reduced Sense of Athletic Accomplishment Subscale) Self-as-Content=Self Compassion Scale – Self-Subscale Self-as-Process=Child and Adolescent Mindfulness Measure Self-as-Context=Self Experiences Questionnaire

Regression analysis

Multiple regression analysis was employed to determine the extent to which Self-as-Content (SCS-S), Self-as-Process (CAMM), and Self-as-Context (SEQ) predict exhaustion, reduced sense of athletic accomplishment and sport devaluation among competitive adolescent squash players. Preliminary analyses did not indicate violations of the assumptions of normality, linearity, multicollinearity and homoscedasticity. Consequently, the regression analysis was conducted as stated above. The full regression model(combination of Self-as-Content, Self-as-Process and Self-as-Context) emerged as significantly predictive of exhaustion ($F_{(3,158)}$=6.876, p<0.001), reduced sense of athletic accomplishment ($F_{(3,158)}$=10.265, p<0.001) and sport devaluation ($F_{(3,158)}$=7.586, p<0.001) among competitive adolescent squash players. The model summary for the regression analysis is presented in Table 2.

Table 2. **MODEL SUMMARY OF REGRESSION ANALYSIS BY BLOCKS OF PERSPECTIVE TAKING VARIABLES PREDICTING COMPONENTS OF ATHLETE BURNOUT (N = 161)**

Predictors	Adjusted R^2	ΔR^2	β	95% CI
Physical and Emotional Exhaustion				
Step 1				
Self-as-Content	0.047	0.053	0.230**	[0.67, 0.338]
Step 2				
Self-as-Content	0.099	0.058	0.111	[-0.048, 0.245]
Self-as-Process			-0.268**	[-0.277, -0.065]
Step 3				
Self-as-Content	0.100	0.007	0.135	[-0.032, 0.270]
Self-as-Process			-0.282**	[-0.287, -0.073]
Self-as-Context			-0.089	[-0.023, 0.081]
Reduced Sense of Athletic Accomplishment				
Step 1				
Self-as-Content	0.121	0.127	0.356**	[0.148, 0.356]
Step 2				
Self-as-Content	0.120	0.005	0.322**	[0.112, 0.344]
Self-as-Process			-0.077	[-0.124, 0.045]
Step 3				
Self-as-Content	0.150	0.034	0.269**	[0.072, 0.308]
Self-as-Process			-0.046	[-0.107, 0.060]
Self-as-Context			-0.199*	[-0.093, 0.011]
Sport Devaluation				
Step 1				
Self-as-Content	0.085	0.090	0.301**	[0.113, 0.340]
Step 2				
Self-as-Content	0.101	0.022	0.227**	[0.046, 0.297]
Self-as-Process			-0.166*	[-0.181, 0.000]
Step 3				
Self-as-Content	0.111	0.015	0.192*	[0.016, 0.273]
Self-as-Process			-0.145	[-0.170, 0.012]
Self-as-Context			-0.134	[-0.082, 0.007]

** $p \leq 0.01$; * $p \leq 0.05$

Despite the combination of all three measures of the ACT-based conceptualisation of the self, accounting for 10% of the variance in the exhaustion scores of the participants, only Self -as-Process (β =-0.282, p=0.001) emerged as a significant predictor of this component of ABO (Figure 1). While all three measures of self explained 15% of the variance in the sample's reduced sense of athletic accomplishment, only Self-as-Content (β=0.269, p=0.002) and Self-as-Context (β=-0.199, p=0.013) made statistically significant contributions to the regression model (Figure 2). Despite the full regression model accounting for 11% of the variance in the sport devaluation reported by the participants, only Self -as-Content (β=0.192, p=0.028) emerged as a statistically significant predictor of this particular aspect of ABO (Figure 3).

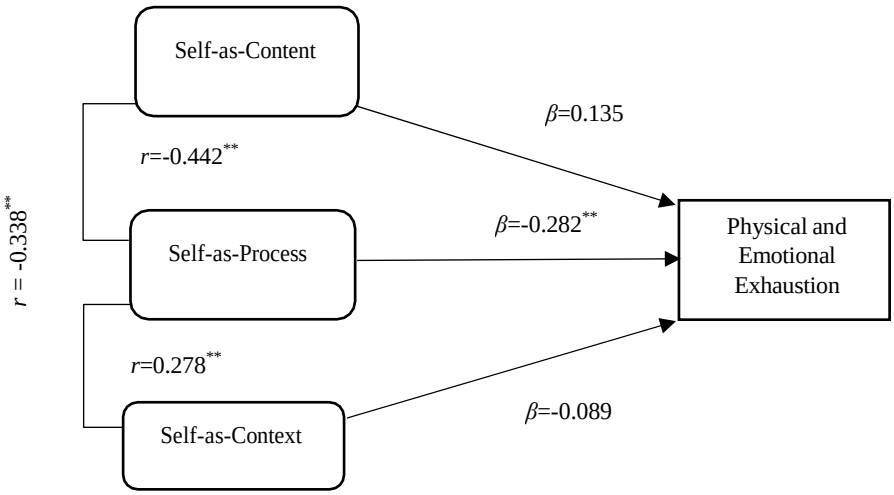

Figure 1. **THREE SELVES MODEL WITH SELF-AS-CONTENT, SELF-AS-PROCESS AND SELF-AS-CONTEXT AS PREDICTORS OF PHYSICAL AND EMOTIONAL EXHAUSTION**
** p≤0.01; * p≤0.05

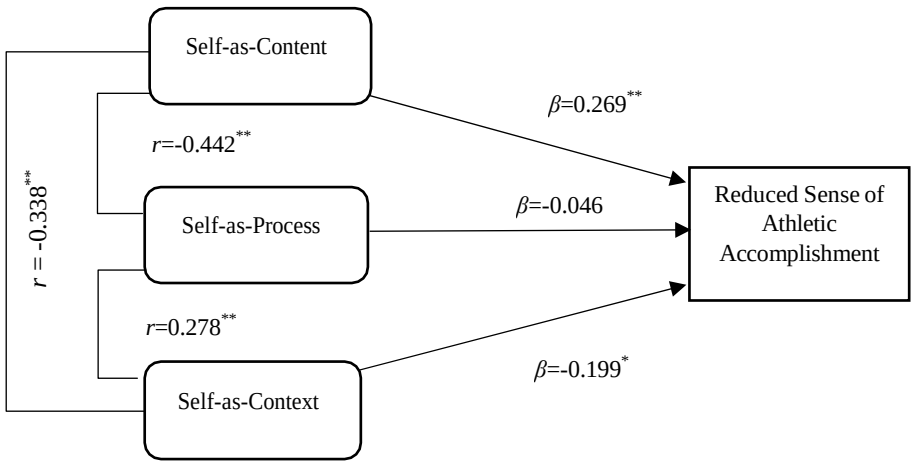

Figure 2. **THREE SELVES MODEL WITH SELF-AS-CONTENT, SELF-AS-PROCESS AND SELF-AS-CONTEXT AS PREDICTORS OF REDUCED SENSE OF ATHLETIC ACCOMPLISHMENT**
** p≤0.01; * p≤0.05

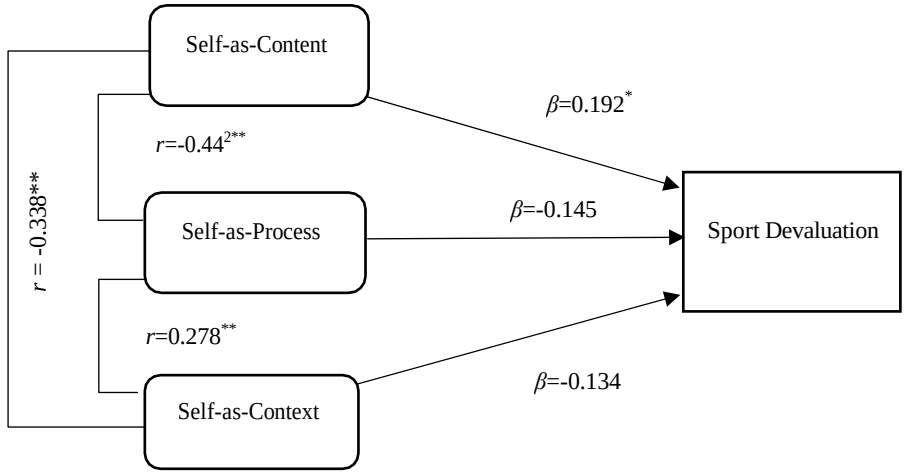

Figure 3. **THREE SELVES MODEL WITH SELF-AS-CONTENT, SELF-AS-PROCESS AND SELF-AS-CONTEXT AS PREDICTORS OF SPORT DEVALUATION**
** p≤0.01; * p≤0.05

DISCUSSION

This study explored the relationship between ACT-based conceptualisations of the self and ABO within the domain of youth sport. Of specific interest was the extent to which Self-as-Content, Self-as-Process and Self-as-Context could predict ABO, both independently and as part of the three selves model proposed by Moran *et al*. (2018).

The mean scores across all three ABQ subscales are suggestive of relatively low levels of ABO in the current sample. This might be expected, as the participants reported training for 4.94 hours per week on average, and Granz and colleagues (2019) found that athletes who train 10 hours or less per week reported fewer burnout symptoms. The extent to which the findings from the current study can be generalised to youth sporting contexts characterised by high training loads may thus be limited. Nevertheless, the study is still informative from a conceptual perspective.

Findings from the current study that Self-as-Content is associated with higher levels of all three components of ABO support those of Moran and colleagues (2018) linking Self-as-Content with emotional distress among adolescents. Similarly, Atkins and Styles (2016) established that a storied sense of self was associated with reduced long-term well-being regardless of whether narratives were negatively or positively phrased. It does not appear unreasonable to view inflexible athletic identities based primarily on sport- and achievement-based perceptions of self-worth as a manifestation of Self-as-Content. Consequently, the positive association between Self-as-Content and all three components of ABO in the current study corroborates

the findings of previous studies linking ABO with unidimensional athletic identity among adolescents (Martin & Horn, 2013; Hiliard *et al*., 2017).

Self-as-Process was found to bear a significant negative relationship to all three components of ABO. This is in line with an inverse relationship reported between mindfulness and ABO among adolescent tennis players (Walker, 2013). Similarly, Gustafsson and colleagues (2015) found that more mindful adolescent athletes reported lower levels of ABO, lower perceived stress, and higher levels of positive affect. It has been suggested that mindfulness serves a protective function via non-judgemental acceptance of experiences that circumvents the self - deprecation typically present in critical self-reflection (Harris & Watson, 2011). Findings from our study suggest that similar protective benefits against ABO might be associated with youth athletes adopting a stronger present-moment orientation regarding their perceptions of self.

Self-as-Context was inversely related to sport devaluation and a reduced sense of athletic accomplishment in this study. Self-as-Context is considered to be comprised of two distinct forms of relating, namely distinction (or Self-as-Distinction) and hierarchy (or Self-as-Observer) (Moran *et al*., 2018; Moran & McHugh, 2019). Hierarchy refers to the ability of individuals to defuse or detach themselves by adopting an observing perspective, which affords them a greater capacity to tolerate undesirable states through the acknowledgement of the temporary nature of the experience (Hayes *et al*., 2001; Fresco *et al*., 2007). McHugh (2015) expands on this notion by describing how the elevation of the self beyond the content of experiences allows for an enhanced acceptance of personal events. Similarly, it might be hypothesised that adolescent athletes with higher levels of Self-as-Context are better able to functionally detach themselves from difficult events and adversity. Consequently, they might be slower to devalue their sport participation in the face of adversity, as well as being more resistant to personalising poor performance or allowing adversity to influence their level of motivation. This would be in keeping with research indicating a positive association between Self-as-Context and improved work and social functioning among chronic pain sufferers (Yu *et al*., 2017).

The current study also tested the extent to which a model built upon an ACT-based conceptualisation of sense of self (Moran *et al*., 2018) was able to predict ABO among adolescent athletes. Wherea s the combination of Self-as-Content, Self-as-Process and Self-as-Context predicted a statistically significant proportion of the variance in all three components of ABO, none of these senses of self individually predicted all three aspects of ABO.

In keeping with research on conceptualisations of self and negative psychological states (Atkins & Styles, 2016; Moran *et al*., 2018; Moran & McHugh, 2019), Self-as-Content predicted increased sport devaluation and a reduced sense of athletic accomplishment. The failure of Self-as-Content to predict exhaustion may to some extent be a function of the relatively low training loads reported by most of the participants. Training load has been identified as an important predictor of ABO in general (Granz *et al*., 2019) and the exhaustion component of ABO in particular (Markati *et al*., 2019). Some evidence exists to suggest that present-moment awareness, in the form of mindfulness or as Self-as-Process, is perhaps more relevant to the direct experience of physiological states such as exhaustion (Jouper & Gustafsson, 2013; Walker, 2019). Cognitively modulated processes such as Self-as-Content, experiential avoidance and cognitive defusion might be more indirectly associated with the experience of

physical states via present-moment awareness (Zhang *et al*., 2016; Zhang *et al*., 2022). This hypothesised indirect effect may explain the failure of Self-as-Context to independently predict exhaustion in the current study. Furthermore, this might also account for the lack of a direct effect of Self-as-Process on sport devaluation and reduced sense of athletic accomplishment, which are both aspects of ABO thought to be underpinned by attribution and cognitive processing (Raedeke & Smith, 2001; Giusti *et al.*, 2020; Madigan *et al.*, 2020).

Contrary to prior research (Atkins & Styles, 2016; Moran *et al*., 2018), Self-as-Context only independently predicted reduced sense of athletic accomplishment. Despite accounting for the lowest proportion of the variance in the emotional distress of the adolescents in the study conducted by Moran and colleagues (2018), Self-as-Context still emerged as a statistically significant predictor of mental health. Similarly, Atkins and Styles (2016) found Self -as-Context to be significantly predictive of depression over a six-month period. The failure of Self-as-Context to demonstrate a more pervasive protective effect with respect to ABO in the current study may be accounted for by various factors. Firstly, Self-as-Context might help facilitate an acceptance of adversity and/or unwanted experiences in the pursuit of meaningful goals, rather than the eradication of such experiences (Atkins & Styles, 2016; McHugh *et al.*, 2019). Consequently, Self-as-Context might not be predictive of ABO *per se* but might well predict the extent to which athletes experiencing ABO are able to continue dealing with adversity successfully and pursue their sporting goals. Secondly, the three ACT-based conceptualisations of self show a developmental progression from Self-as-Content to Self-as-Context (McHugh, 2015). It is thus possible that most of the adolescents in the current study may not have reached a point of development where Self-as-Context has been as firmly established as the other two forms of perspective taking. However, the fact that Self-as-Context emerged as a significant predictor of adolescent mental health in other studies (Moran *et al*., 2018) calls this line of reasoning into question. Finally, in the current study the SEQ was used to operationalise Self-as-Context, as opposed to the Self-as-Context Scale (SACS) (Zettle *et al*., 2018) used in the Moran *et al*. (2018) study. To date, the SEQ has only been validated on adults (Yu *et al*., 2017). However, acceptable internal consistency was demonstrated for the current sample. Consequently, the failure of Self-as-Context to emerge as a more pervasive predictor of ABO might have been influenced to some degree by the choice of measuring instrument. Future studies should further explore the applicability of the SEQ to adolescent populations.

Given that the three selves model tested in this study accounted for a modest proportion of the variance in athletes' scores across all three components of ABO, factors beyond the scope of the current study contribute significantly to the prediction of ABO in this population. Individual characteristics, such as perfectionism (e.g., Appleton & Hill, 2012) and motivation (e.g., Lemyre *et al.*, 2006), as well as environmental influences, such as parental involvement (e.g. , DeFreese *et al*., 2018) and coaching styles (e.g., Rad & Ghalenoei, 2013), should be further investigated in conjunction with the conceptualisations of self to develop a more complete and nuanced understanding of the factors contributing to ABO among adolescents.

To the best of our knowledge, this study is the first to attempt to apply an empirically derived behavioural theory of perspective-taking within the sporting context. Moreover, it is the first study to examine the utility of the three selves model in relation to ABO among youth athletes, as well as within a South African population. The study partially replicated previous findings

regarding the positive relationship between Self-as-Content and mental health difficulties in adolescent populations (Moran *et al*., 2018; Moran & McHugh, 2019). However, Self-as-Process and Self-as-Context were only directly predictive of certain components of ABO. This might suggest that while identification with a conceptualised sense of self is predictive of all but the exhaustion component of ABO, Self-as-Process and Self-as-Context might not serve as a protective factor across all aspects of ABO. Further exploration of the potential role of perspective taking in the psychological well-being of athlete populations, particularly youth athlete populations, is necessary.

LIMITATIONS OF THE STUDY

A limitation of this study is the restricted generalisability of the findings due to the size and homogeneity of the sample. The results thus cannot be generalised to other sporting populations, such as adults, elite athletes and team sports. Furthermore, the sample was not large enough to investigate the effect of age, gender, and level of competition on the interaction between sense of self and ABO. It is recommended that the study be replicated in more diverse sporting samples and that analyses be conducted for age, gender, level of competition and any other relevant demographic variables.

The cross-sectional design limits the conclusions that can be drawn regarding the three selves model (Self-as-Content, Self-as-Process and Self-as-Context) in general, as well as the model in predicting the components of ABO. Future longitudinal studies could investigate the potential interaction between the study variables across multiple time points, such as over the course of the season.

In line with most of the published research (e.g., Raedeke & Smith, 2009; Gustafsson, DeFreese *et al*., 2017), participants in the current study reported relatively low levels of ABO. The findings from our study can thus not necessarily be generalised to adolescent or athlete populations reported to experience higher levels of ABO. The predictive ability of the three selves model investigated in this study might differ significantly in a sample of more burnt-out athletes or among individuals with less homogeneity across the components of ABO. Consequently, further exploration of this model in samples with higher levels of ABO, or in populations that have been identified as being at particular risk of ABO, is recommended.

Moran and McHugh (2019) found hierarchy to be predictive of stress and depression among adolescents, while distinction did not predict any mental health variable. Based on these disparate predictive abilities of distinction and hierarchy, future research should aim to elicit a more nuanced picture of the role of Self-as-Context in ABO.

CONCLUSION

There appears to be a significant relationship between adolescents viewing themselves in terms of the content and labels of their lives (e.g., "I am successful", "I never train as hard as I should") and increased levels of sport devaluation, as well as a reduced sense of athletic accomplishment. By contrast, adopting a present-moment-focussed perspective on the self is associated with lower levels of physical and emotional exhaustion, while a more flexible perspective on the self might be protective against a reduced sense of athletic accomplishment. Although this vein of research is still in its infancy, there do seem to be implications for

practice. Given that strong identification with an athletic identity and performance-based sense of self predict two components of ABO, early sport specialisation and overemphasis of outcomes seem to place adolescents at increased risk of ABO. Consequently, a dolescent athletes who are inclined to have an overly rigid view of their abilities and sport -related identity might need to be monitored more carefully for the development of ABO. Furtherm ore, the risk of certain aspects of ABO may be ameliorated by helping adolescent athletes develop more of a present-moment-focussed perception of the self via mindfulness training and similar interventions. Similarly, interventions aimed at fostering a flexible sense of self could be protective against discouragement and a reduced sense of athletic accomplishment in the face of adversity and poor performance.

Conflict of interest

The authors declare no conflict of interest.

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